

Serial No. 10/729,201

Atty. Doc. No. 2002P06120WOUS

REMARKS

Applicant has amended claims 1, 4 - 9, 12 - 13, 15, and 18, canceled claim 10, and added claims 21 and 22. Thus, claims 1 - 9 and 11 - 22 are pending in the application and presented for examination. Applicant respectfully requests allowance of the pending claims in view of the foregoing amendments and the following remarks.

Response To Rejections Under Section 102:

Claims 1 - 4, 11, and 14-20 stand rejected under 35 U.S.C. § 102(b), the Examiner contending that these claims are anticipated by Kurz et al. (US 6,024,792). The Examiner apparently reads Kurz as disclosing Applicants' claimed method of manufacturing mono-crystalline structures on substrates.

Applicants have amended claim 1 to clarify the term "focal spot" as a focused length (see e.g. Applicants' specification, Figure 1 illustrating the geometry of the focused length) and include the limitation of advancing the focused length in a single continuous movement in a z direction only (see e.g. Applicants' specification, page 8 line 8 and page 9 lines 21 - 24). In contrast, Kurz discloses a laser beam 42 having a laser spot diameter (see Kurz specification, column 4 line 64) and is silent with regard to limiting the motion of the laser spot to a single continuous movement in a single axial direction. Presumably, Kurz requires the laser spot to travel in a meandering manner. Controlling the laser to have a focused length and advancing the focused length in a single continuous movement in a z direction only is not a matter of mere design choice but allows for simplifies beam guidance and beam movement (see e.g. Applicants' specification, page 10 lines 18 - 22). For example, movement of the focused length with a single continuous motion over the entire width of the surface area instead of a single point or spot expedites building the re-crystallized layers since a larger surface area can be treated, allows a larger area to be treated since a focused length is being used instead of a laser spot, and reduces manufacturing costs.

Applicants have further amended claim 1 to include the limitation of controlling a temperature of the focused length of the energy source by an optical system to determine when a next epitaxial layer is to be formed (see e.g. Applicants' specification, page 11 lines 35 - 57). Kurz does not disclose or suggest using an optical system to control the temperature of the

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focused length to determine when a next epitaxial layer is to be formed. Controlling the temperature of the focused length of the energy source is not a matter of mere design choice but ensures that the temperature remains constant to enable proper growth of a mono-crystalline structure.

Applicants have amended claim 15 to include the limitation of controlling a power intensity in a central area of the focused length such that the power intensity remains constant in the focused length (see e.g. Applicants' specification, page 10 lines 24 – 28). In contrast, Kurz discloses non constant laser power levels of the laser spot (see Kurz specification, column 5 lines 4, 12, and 18). Applicants disclosure of controlling the power intensity in the central area of the focused length to be constant allows beads of different or variable width to be generated during the movement of the focused length (see e.g. Applicants' specification, page 10 lines 26 – 28).

Therefore, Applicant respectfully requests that the Examiner withdraw the Section 102 rejection.

Response To Rejections Under Section 103:

Claims 5 – 10, 12 - 13 stand rejected under 35 U.S.C. § 103(a), the Examiner contending that these claims are unpatentable over Kurz et al. (US 6,024,792), and in further view of Marcin Jr. et al. (US 6,103,401).

In view of the remarks in connection with the Section 102 rejection, Applicant respectfully submits that Kurz, alone or in combination, does not teach or suggest the claimed invention. Reconsideration and withdrawal of the Section 103 rejection is respectfully requested.

Discussion of new claims 21 and 22:

New claims 21 and 22 further define the scope of the invention, as described in the specification and drawings. For example, claim 21 recites the focused length is adapted to the width of the filling area so that a complete pass over a surface to be treated takes place in a single continuous advancing movement (see e.g. Applicants' specification, page 9 lines 17 – 24). As another example, claim 22 recites that the optical system views the surface area to be treated.

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Applicants respectfully submit that claims 21 and 22 are patentable and respectfully request allowance of claims 21 and 22 as well as claims 1 - 9 and 11 - 20 which are patentable based on their own merits.

CONCLUSION

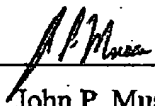
For the foregoing reasons, it is respectfully submitted that the rejections set forth in the outstanding Office Action are inapplicable to the present claims. Accordingly, Applicant respectfully requests that the Examiner reconsider the rejections and timely pass the application to allowance.

The undersigned has made a good faith effort to respond to all of the rejections in the application and to place the claims in condition for allowance. Should the Examiner have any questions concerning this paper or application, or if any undeveloped issues or questions remain, the Examiner is respectfully requested to contact Applicant's undersigned attorney to resolve such issue or question. All correspondence should continue to be directed to our below-listed address.

Please grant any extensions of time required to enter this paper. The commissioner is hereby authorized to charge any appropriate fees due in connection with this paper or credit any overpayments to Deposit Account No. 19-2179

Respectfully submitted,

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